

OK to extend
08/05/04
M&C

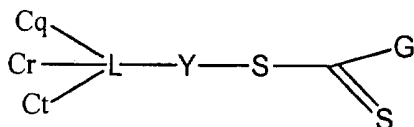
This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-16. (Canceled)

17. (Currently Amended) A method of preparing a sensor for detecting a biological molecule in an aqueous sample, the method comprising:

bonding an iniferter initiator to a substrate surface at one or more points to form a derivatized surface, said surface-bound iniferter initiator ~~comprising an initiator-control agent adduct~~ having the formula:



wherein C is a moiety on the surface of the substrate; L is a linker group capable of bonding to at least one C moiety; q, r and t are independently 0 or 1, provided the sum of $q + r + t$ is at least 1; Y is a residue capable of initiating free radical polymerization upon ~~UV-initiated~~ homolytic cleavage of the Y-S bond; S is sulfur; and, G is a nitrogen or an oxygen heteroatom;

contacting said derivatized surface with a composition comprising a water-soluble or water-dispersible free radically polymerizable monomer mixture, ~~the mixture containing an acrylamide-based monomer and at least 1 other monomer~~, under reaction conditions to form bound polymer chains comprising a water-dispersible segment having a weight average molecular weight of at least about 1000 grams per mole, wherein (i) the mixture comprises a monomer that has one or more functionalized sites thereon for reaction with a probe selective for the biological molecule and a monomer that does not have a functionalized site for reaction with said probe, and (ii) the mixture comprises an acrylamide-based monomer and at least 1 other monomer (i) at least one of said monomers has one or more functionalized sites thereon for reaction with a probe selective for the biological molecule, and (ii) at least one of said monomers does not have a functionalized site for reaction with said probe; and

bonding the probe to the bound polymer chains through the functionalized sites.